AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer claims indicated as cancelled. The following listing of claims is intended to replace all prior versions and/or listings of claims in the application:

LISTING OF CLAIMS

1. **(Currently Amended)** An all-optical packet gate, comprising:

   a) an optical divider, having a first input and first and second outputs, to receive ~~for receiving~~ optical packets at said input and ~~directing~~ to direct said packets to each of said first and said second outputs, said optical packets having encoded headers and payloads[[;]],

   ~~b)~~ wherein said first output includes:

   a decoding device, to decode ~~for decoding~~ one of said encoded headers of one of said optical packets and to ~~produces~~ produce a pulse in response to one of said encoded headers propagating in said first output; and

   a copier, to produce ~~for producing~~ a plurality of images of said pulse[[,]];

   and

   ~~c)~~ b) an AND gate having second and third inputs and a third output, ~~and~~

   ~~d)~~ wherein said AND gate ~~receives~~ is arranged to receive said plurality of images of said pulse at said second input and one of said packets at said third input, to optically produce time coincidence between said plurality of images of said pulse and ~~the~~ pulses of the payload of one of said optical packets propagating in said third input, to produce at said third output a signal similar to one of said payloads.

2. **(Original)** The gate of claim 1 wherein said decoding device includes an AND gate having fourth and fifth inputs.

3. **(Currently Amended)** The gate of claim 2 wherein said fourth and fifth inputs are delayed by a relative time delay that is equal to [[the]] a time delay between [[the]] pulses of one of said headers.

4. **(Original)** The gate of claim 1 wherein said AND gate further includes a threshold mechanism.

5. **(Original)** The gate of claim 4 wherein said threshold mechanism is a threshold selected from a group of optical thresholds and electronic thresholds.

6. **(Currently Amended)** The gate of claim 1 wherein said copier includes at least one one-to-many dividers and at least one many-to-one combiners connected by a plurality of delay lines.

7. **(Original)** The gate of claim 1 wherein said encoding device is irresponsive to any of said payloads.

8. **(Currently Amended)** An all-optical packet gate, comprising:

a) an optical divider, having a first input and first and second outputs, to receive ~~for receiving~~ optical packets at said input and ~~directing~~ to direct said packets to each of said first and said second outputs, said optical packets having encoded headers and payloads[[;]].

~~b)~~ wherein said first output includes:

a decoding device, to decode ~~for decoding~~ one of said encoded headers of one of said optical packets and to ~~produces~~ produce a pulse in response to one of said encoded headers propagating in said first output, and

a broadening device having at least one stable state, to convert ~~for converting~~ said pulse into a wide pulse[[,]];

and

~~c)~~ b) an AND gate having second and third inputs and a third output, ~~and~~

~~d)~~ wherein said AND gates ~~receives~~ is arranged to receive said wide pulse at said second input and one of said packets at said third input, to optically produce time coincidence between said wide pulse and ~~the~~ pulses of the payload of one of said optical packets propagating in said third input, to produce at said third output a signal similar to one of said payloads.

9. **(Currently Amended)** The gate of claim [[7]] 8 wherein said decoding device includes an AND gate having fourth and fifth inputs.

10.**(Currently Amended)** The gate of claim [[8]] 9 wherein said fourth and fifth inputs are delayed by a relative time delay that is equal to [[the]] a time delay between [[the]] pulses of one of said headers.

11.**(Currently Amended)** The gate of claim [[7]] 8 wherein said AND gate further includes a threshold mechanism.

12.**(Currently Amended)** The gate of claim [[10]] 11 wherein said threshold mechanism is a threshold selected from a group of optical thresholds and electronic thresholds.

13.**(Currently Amended)** The gate of claim [[7]] 8 wherein said broadening device includes at least one device selected from a group of optical and electronic bistabe devices, monostable devices, and toggle devices.

14.**(Currently Amended)** The gate of claim [[7]] 8 wherein said optical packets further [[includes]] include an encoded trailer.

15.**(Currently Amended)** The gate of claim [[13]] 14 wherein said encoding device is responsive to said trailer.

16.**(Currently Amended)** The gate of claim [[7]] 8 wherein said encoding device is irresponsive to any of said payloads.

17.–20. **(Cancelled)**